Docker Installation Guide

First, install **Docker Desktop** for your OS using the following installation guides.

- Windows: https://docs.docker.com/desktop/install/windows-install/
- Mac: https://docs.docker.com/desktop/install/mac-install/

Download and extract the `docker.zip` file from Canvas. This will create a directory that contains some necessary files for building the docker image. You should see a file named `Dockerfile` in the extracted directory!

From a terminal (this *cannot* be the git bash terminal) navigate into the `docker` folder (after unzipping it) and run the following command. Make sure to type the `./` at the end!

```
docker build -t cs2200image ./
```

You will never need to execute this command again unless you have changed your `Dockerfile`. Now that you have *built* the docker image, you can actually *run* a container instance using the scripts provided in the `docker` folder. To run a container instance:

1. Open the docker desktop application and **let it run in the background**
2. Type the following into your terminal:
    a. On **Windows**, either `.\run.bat` if using powershell or just `run.bat` if using command prompt
    b. On **Mac and Linux**, first run `chmod +x run.sh` then `./run.sh`

Remember, run this in the extracted `docker` folder! If this was successful, you should see something like:

```
root@57a4f8b9fe5b:/cs2200#
```

At this point, you are inside the container and can type commands (including `gcc` and `gdb`)! If you type `ls` you will see the contents of the `workspace` directory that is shared between your computer and the container. Remember, you should **place your homework and project files in this directory** so that you can use `gcc` and `gdb` on them.

You can close the container by typing `exit`. If you close out of the terminal instead, the container will still be running in the background and you will not be able to create a new one! If you accidentally do this, try typing `docker stop cs2200` and `docker container rm cs2200` from a terminal on your computer.

To open the container again, just use the run.bat/run.sh script from above. **To open additional terminals for the same docker session**, use the attach script we gave you in a separate terminal (you will need this for Project 5). Execute it the same way as the run.bat/run.sh script (including running `chmod` on it).